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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,825	04/20/2006	Svein Erling Johnstad	2005-1987A	4070

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SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

HUGHES, DEANDRA M

ART UNIT	PAPER NUMBER
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3663

MAIL DATE	DELIVERY MODE
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11/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,825

Applicant(s)

JOHNSTAD, SVEIN ERLING

Examiner

Deandra M. Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-34, 40, 42-51 and 53-56 is/are rejected.
- 7) ☒ Claim(s) 35-39, 41, 52, 57 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/30/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's traversal of the species election requirement is convincing in that Applicant stated that the defined species are patentably indistinct (reply filed 8/17/07; pg. 3, lines 13-14). As a result, the species election requirement is withdrawn.

Claims 29-56 are examined herewith.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 12/30/05 has been considered by the examiner and is found to be cumulative to the art of record.

Claim Rejections - 35 USC § 103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 29, 31, 33-34, 44-47, 49-51, and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Strack (US 6,541,975 published Apr. 1, 2003).

With regard to claim 29, a marine geophysical acquisition system comprising:

- one or more seismic signal sources (fig. 1, #25) *for being arranged in the sea or at the seafloor and for emitting seismic signals;*

- a plurality of seismic sensors (fig. 3, #56, #58) arranged on a receiver cable (#12) *for being extended in the sea*;
- said seismic sensors for sensing propagated seismic signals emitted from said signal source (col. 11, lines 15-20);
- wherein one or more EM signal sources (e.g., fig. 2 #48a, #48b, #48c; col. 4, lines 40-45) *arranged in the sea, or on the sea floor, said signal source for emitting EM-signals*;
- a plurality of electromagnetic sensors arranged along and on, or otherwise associated with, said receiver cable (e.g., fig. 2 #48a, #48b, #48c; col. 4, lines 40-45);
 - o in which said electromagnetic sensors have generally fixed distance relations with said seismic sensors along said receiver cable (the sensors in fig. 3 are fixed in a unit);
- said EM-sensors for sensing EM-signals propagated from said EM-signal sources (e.g., fig. 2 #48a, #48b, #48c; col. 4, lines 40-45).

The Examiner considers the claim language identified in italics above to be functional limitations, i.e. intended use. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone. Since the structural limitations have been met by the prior art, the Examiner has reason to believe that the function limitation can be performed by the **claimed** prior art structure merely by placing the apparatus in a marine environment. See MPEP 2114.

With regard to claim 31, fig. 1, #18 is the lead in.

With regard to claim 33, fig. 1, unit #32 arranges the sensors in a linear configuration.

With regard to claim 34, Applicant admits that the claimed configuration is patentably indistinct from claim 33.

With regard to claims 44-47 and 56, fig. 3 discloses two or more receiver sections.

With regard to claims 49-50, all seismic waves are inherently either P or S waves.

With regard to claim 51, note the ring-mounted electrode assembly of fig. 3.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 30, 32, 42, 48, 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strack in view of Eidesmo (US 6,628,119 published Sept. 30, 2003).

With regard to claim 30, Strack does not specifically disclose that the electrical signal generator is aboard a marine vessel. However, Eidesmo teaches an electrical signal generator aboard a marine vessel (#30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the electrical signal

generator aboard a marine vessel for the advantage of direct, rather than remote, control of the electrical signal.

With regard to claims 32, 42, 48, and 53-54, Strack does not specifically disclose arranging the receiver cable on a seabed. However, Eidesmo teaches placing a receiver cable, which would inherently be waterproof, on a seabed to enhance reflected wave resolution (fig. 1, #17; col. 4, line 35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the receiver cable on the seabed floor for the advantage of enhancing reflected wave resolution.

With regard to claim 55, Strack discloses an acquisition unit (fig. 1, #24).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 31-32, 40, 43, 48-51, and 54 recites the limitation "said vessel" in the last line. There is insufficient antecedent basis for this limitation in the claim. Claim 31 depends upon claim 29, which lacks a limitation pertaining to a vessel. Applicant may have intended for claim 31 to depend upon claim 30. However, claim 31 was examined as if it depended upon claim 29 to provide the broadest possible examination.

Regarding claims 40, 43, 49-51, the word "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Allowable Subject Matter

9. Claims 35-41, 52, and 57 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to claim 35, the prior art does not teach or make obvious *voltage amplifiers* in conjunction with the other features of the claim.

With regard to claim 52, the prior art does not teach or make obvious *seismic electronic amplifiers* in conjunction with the other features of the claim.

10. Claims 40 and 43 would be in condition for allowance if it were rewritten to obviate the 112-2nd paragraph rejection above and it included all the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M. Hughes whose telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

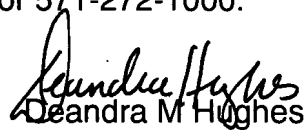
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Deandra M Hughes
Primary Examiner
Art Unit 3663